YEAR 4

M3a: Can recall and use multiplication and division facts for the 3, 4 and 8 times tables.

 = Teacher's Notes

Commissioned by The PiXL Club Ltd. 2017

Probing Questions

- Describe some connections between 3, 4 and 12 using the words multiple and factor.
- Write three different multiplications with a product of 24.
- Write three different divisions with a quotient of 3.
- If you multiply me by 4 you get 32. What number am I?
- Multiples of 4 are always multiples of 2. Is this statement true or false? Explain your answer.
- Name the first 5 multiples of 8.
- Give two numbers that are multiples of 4 and 8.
- How do you know if a number is divisible by 3?
- What multiplication fact can we use to work out 20 x 8 = ?

Key Vocabulary

multiplication, multiply, division, divide, multiplied by, multiple of, times, lots of, groups of, divided by, divisible by, factor of, quotient, array, inverse.

Multiplication and Division Facts

Remember what we know about our multiplication and division facts.
We know our **10x, 5x, and 2x** tables well.

0 5 10 15 20 25 30 35 40 45 50 55 60

Let's use a counting stick to help us recall our 10x, 5x and 2x tables…

Counting stick ideas for teachers (10x, 5x, 2x)

- Use a counting stick labelled with ‘post its’.
- ‘Chant’ through the ‘times table’ together 1 x 5 = 5, 2 x 5 = 10 etc.
- Gradually remove ‘post its’ and ‘chant’ again.
- Finish with ‘quick fire’ questions. For example:
  What is 4 x 5?
  What is 40 ÷ 5?
- What number would go here? (pointing to a division on the counting stick).

Problem Solving and Reasoning

- Missing number calculations:

  3 x 5 = 24 - _____

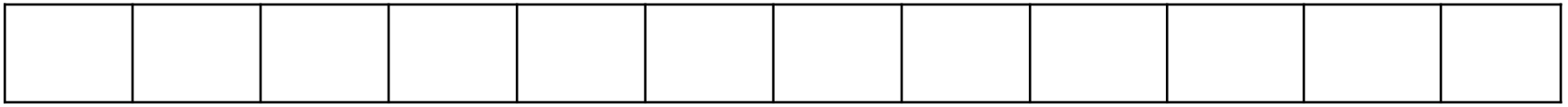
Multiplication and Division Facts

Now let's repeat these activities with the **3x, 4x and 8x** times tables.

0 3 6 9 12 15 18 21 24 27 30 33 36

Let's use a counting stick to help us recall our 3x, 4x and 8x tables…

Counting stick ideas for teachers (3x, 4x, 8x)



- Chant through the 'times table' together several times (1 x 3 = 3, 2 x 3 = 6, etc.) as we gradually remove the 'post its'.
- Finish with several 'quick fire' questions. For example:
  What is 8 x 3?
  What is 27 ÷ 3? etc.

Problem Solving and Reasoning

- Missing number calculations:

  4 x 6 = 8 x _____

Problem Solving and Reasoning

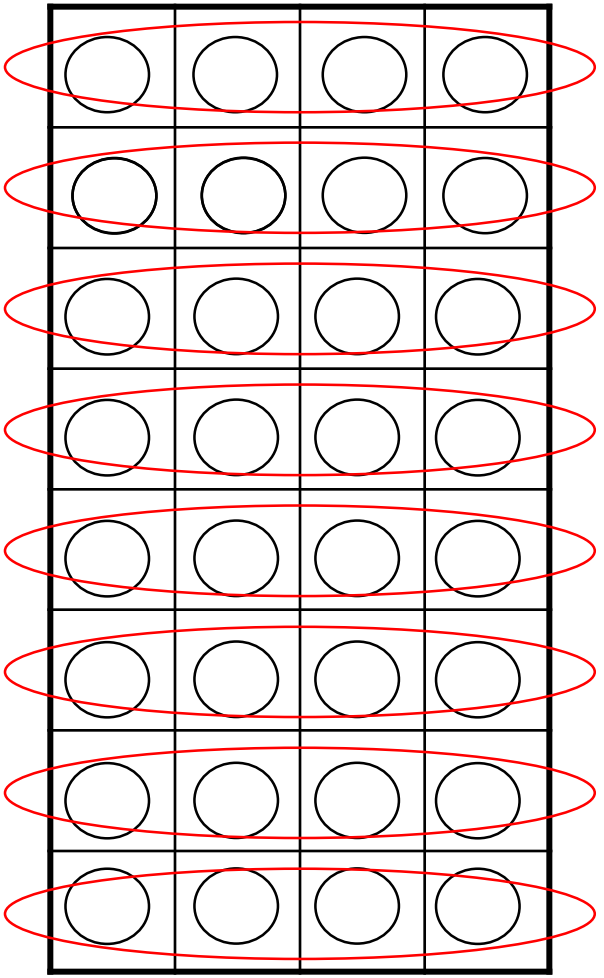
- 3 x 8 = 24
- How can you use this to solve:
  - 30 x 8 = ? 3 x 80 = ?

Problem Solving and Reasoning

- 1/3 of 24 is equivalent to 24 ÷ 3 = ____
- 1/8 of 48 is equivalent to 48 ÷ 8 = ____

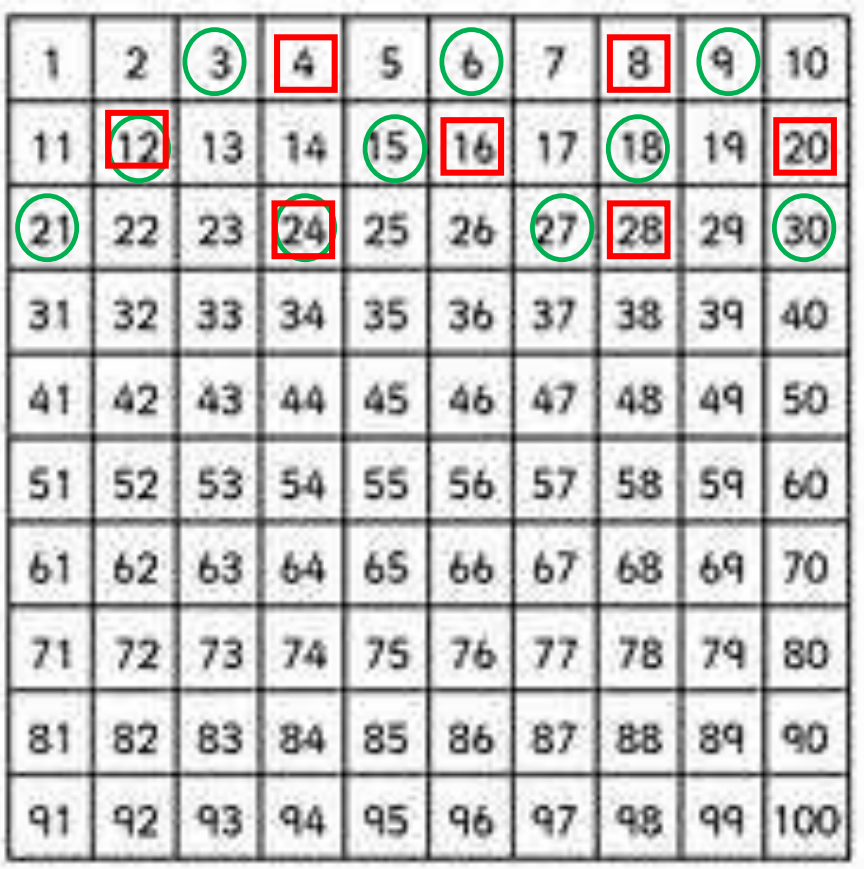
Further guidance for teachers

Use arrays if necessary to visually show multiplication and division facts.



Further guidance for teachers

Another visual that could be used when the children are at the beginning of their journey to becoming fluent with a specific times table is a hundred square. It allows pupils to see the patterns that the numbers make as they go through the multiples.



1	2	3	4	5	6	7	8	9	10
11	12	13	14	15	16	17	18	19	20
21	22	23	24	25	26	27	28	29	30
31	32	33	34	35	36	37	38	39	40
41	42	43	44	45	46	47	48	49	50
51	52	53	54	55	56	57	58	59	60
61	62	63	64	65	66	67	68	69	70
71	72	73	74	75	76	77	78	79	80
81	82	83	84	85	86	87	88	89	90
91	92	93	94	95	96	97	98	99	100

Problem Solving and Reasoning

- Which pairs of numbers could be written in the spaces?
- ___ x ___ = 12 56 = ___x ___

Can you find the missing numbers?

x	3	
	15	40
4		

M3a: Activities

- Chanting times tables with question and answer – forwards, backwards and random. Use also the corresponding division facts.
- Link x2 with doubling and halving which they have previously learnt to do; make links between 2, 4 and 8.
- Matching games – times tables question and answer cards to play snap or pairs.
- Use coins and get them to give the multiple related to that coin (10p and the 3 times table would be 30p).
- Packs of cards can be used as random question generators. You can take out the ones they are fluent in and leave those they need more rehearsal in.
- Tens frame and hundreds squares for children to see the pattern as they are chanting.
- Counting stick with post it notes, remove the scaffold of the post it notes as children become fluent with some of them. Children could have individual counting sticks and then the scaffold could be differentiated accordingly.
- Complete multiplication grids with missing parts.
- Multiplication or division number sentences with missing numbers.
- Use related number facts and link with numbers which are 10 times larger or smaller.

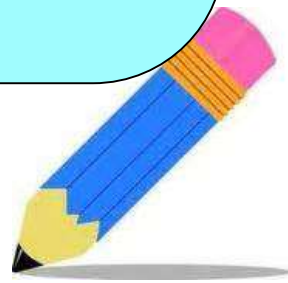
M3a. Your Turn

Test 1

1. 4 x ___ = 32.

2. 27 ÷ ____ = 9.

3. Sweets are sold in packs of 8. If Sam buys 9 packets, how many sweets will he have altogether?



M3a. Your Turn

Test 2

1. 96 ÷ _____ = 12.

2. _____ x 8 = 24.

3. Erin has 4 piggy banks. In each piggy bank she has saved £12. How much money has she saved altogether?

M3a. Your Turn

Test 3

1. Paul has baked 21 cakes. If he shares them between 7 customers how many would they each get?

2. _____ ÷ 8 = 8.

3. 3 x _____ = 21.